

CLAIMS

1. An installation (11) for purifying a cryogenic liquid, of the type comprising:
- 5       - a liquid flow pipe (13) having an upstream portion (21) and a downstream portion (23);
- a filtration member (37) interposed between the upstream portion (21) and the downstream portion (23) and in which there is formed at least one
- 10       duct (51) extending along a flow axis (Y-Y') between an open end (53) and a closed-off end (55), said duct being at least partially defined by a porous wall (57),
- characterized by the implementation of the
- 15       following measures:
- the pipe (13) has a double-walled vacuum thermal insulation jacket (14) containing an insulation material in its inter-wall area, which jacket defines a flow space in a part of which the
- 20       filtration member (37) is secured, a first of said portions (21) emerging into the open end (53) of said duct (51) via interposed first sealing means (73), the other of said portions (23) emerging opposite at least one region (59)
- 25       of the porous wall (57);
- the pipe (13) comprises a branch (35) extending parallel to said flow axis (Y-Y') between said first portion (21) and a free end (49), said branch (35) containing at least part of the
- 30       filtration member (37) and a thermal insulation member (39) which is mounted so as to bear, on the one hand, on the closed-off end (55) of the filtration member (37) and, on the other hand, on the free end (49) of said branch (35);
- 35       - downstream sealing means (75) are arranged between the filtration member (37) and the insulation member (39), these downstream sealing

means (75) being maintained in compression by the filtration member (37) and the insulation member (39) at the temperature of the cryogenic liquid which is intended to be purified.

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2. The installation as claimed in claim 1, characterized in that said first sealing means (73) are maintained in compression by the filtration member (37) and said first portion (21) at the temperature of the cryogenic liquid which is intended to be purified.
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3. The installation as claimed in claim 1 or 2, characterized in that the part (58) of the first portion (21) adjacent to said open end (53) extends along the flow axis (Y-Y').
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4. The installation as claimed in any one of the preceding claims, characterized in that said first portion consists of said upstream portion (21), the angle formed by the general axis (X-X') of this upstream portion (21) and the flow axis (Y-Y') being between about 10° and about 30°.
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5. The installation as claimed in claim 4, characterized in that said angle is substantially equal to 15°.
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6. The installation (101) as claimed in one of claims 1 to 3, characterized in that the flow axis (Y-Y') is substantially vertical and in that said downstream portion (23) emerges opposite a region (59) of the porous wall (57) in the vicinity of the closed-off end (55) of said filtration member (37), which is the upper end of this member (37).
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7. The installation as claimed in any one of the preceding claims, characterized in that a prefiltration member (27) having a pore size

greater than or equal to 100  $\mu\text{m}$  is arranged in the upstream portion (21) of the pipe (13).

- 5        8.    The installation as claimed in any one of the preceding claims, characterized in that said porous wall has a pore size which is less than or equal to 0.20  $\mu\text{m}$ .
- 10      9.    A method for purifying a cryogenic liquid, characterized in that it is implemented in an installation (11, 101) as claimed in any one of the preceding claims.